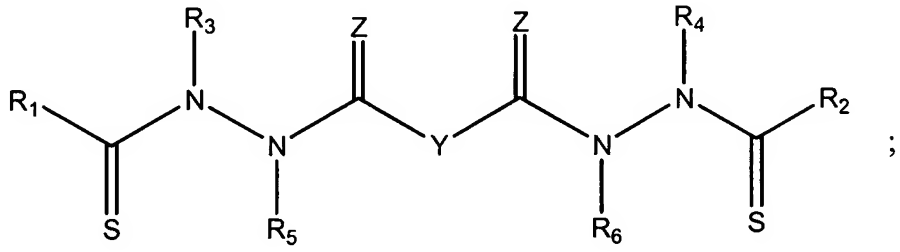
Amendments to the Claims

Please amend Claims 1, 5, 12, 17, 18, 22, 24, 25 and 29. The Claim Listing below will replace all prior versions of the claims in the application:

Claim Listing

1. (Currently amended) A method of treating a subject with a multi-drug resistant cancer, said method comprising administering to the subject an effective amount of a compound represented by the following structural formula:



;

or a pharmaceutically acceptable salt thereof, wherein:

Y is a covalent bond or a substituted or unsubstituted straight chained hydrocarbyl group, or, Y, taken together with both >C=Z groups to which it is bonded, is a substituted or unsubstituted aromatic group;

R_1-R_4 are independently -H, an unsubstituted aliphatic group, a substituted aliphatic group, an unsubstituted aryl group or a substituted aryl group, or R_1 and R_3 taken together with the carbon and nitrogen atoms to which they are bonded, and/or R_2 and R_4 taken together with the carbon and nitrogen atoms to which they are bonded, form a non-aromatic heterocyclic ring optionally fused to an aromatic ring;

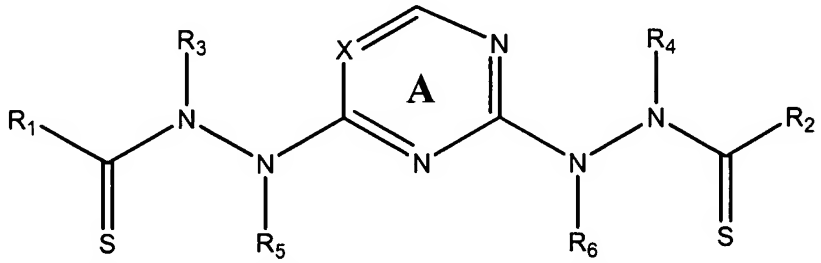
R_5-R_6 are independently -H, an unsubstituted aliphatic group, a substituted aliphatic group, an unsubstituted aryl group or a substituted aryl group; and

Z is =O or =S.

2. (Original) The method of Claim 1 wherein R_1 and R_2 are the same and R_3 and R_4 are the same.

3. (Original) The method of Claim 2 wherein Y, taken together with both >C=Z groups to which it is bonded, is a substituted or unsubstituted arylene group.

4. (Original) The method of Claim 3 wherein the compound is represented by the following structural formula:



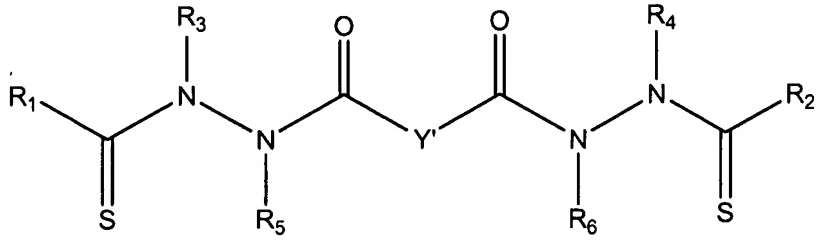
;

wherein Ring **A** is substituted or unsubstituted and X is -CH- or -N-.

5. (Currently amended) The method of Claim 2 wherein Y is a covalent bond[[,]] or a substituted or unsubstituted straight chained hydrocarbyl group ~~or a phenylene group~~.

6. (Original) The method of Claim 5 wherein Y is a covalent bond, -C(R_7R_8)-, -(CH_2CH_2)-, *trans*-(CH=CH)-, *cis*-(CH=CH)-, -(CC)- or a 1,4-phenylene group.

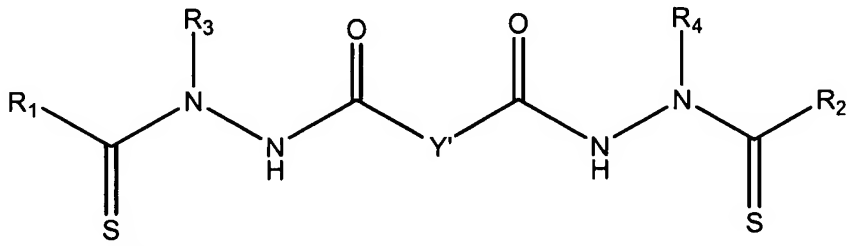
7. (Original) The method of Claim 2 wherein the compound is represented by the following structural formula:



;

wherein Y' is a covalent bond or -C(R_7R_8)- and R_7 and R_8 are each independently -H, an aliphatic or substituted aliphatic group, or R_7 is -H and R_8 is a substituted or unsubstituted aliphatic group or substituted or unsubstituted aryl group, or, R_7 and R_8, taken together, are a C2-C6 substituted or unsubstituted alkylene group.

8. (Original) A method of treating a subject with a multi-drug resistant cancer, said method comprising administering to the subject an effective amount of a compound represented by the following structural formula:



;

or a pharmaceutically acceptable salt thereof, wherein:

Y' is a covalent bond or -C(R_7R_8)-;

R_1 and R_2 are each a substituted or unsubstituted aryl group;

R_3 and R_4 are each a substituted or unsubstituted aliphatic group;

R_7 is -H; and

R_8 is -H, an aliphatic or substituted aliphatic group.

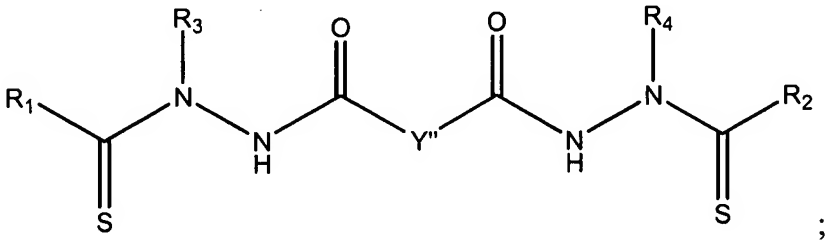
9. (Original) The method of Claim 8 wherein R_1 and R_2 are the same and R_3 and R_4 are the same.

10. (Original) The method of Claim 9 wherein R_3 and R_4 are each an alkyl group and R_8 is -H or methyl.

11. (Original) The method of Claim 10 wherein R_1 and R_2 are each a substituted or unsubstituted phenyl group and R_3 and R_4 are each methyl or ethyl.

12. (Currently amended) The method of Claim 11 wherein the phenyl group represented by R_1 and the phenyl group represented by R_2 are optionally substituted with one or more groups selected from OH, -Br, -Cl, -I, -F, -OR^a, -O-COR^a, -COR^a, -CN, -NO_2, -COOH, -SO_3H, -NH_2, -NHR^a, -$N(R^aR^b)$, -$COOR^a$, -CHO, -$CONH_2$, -$CONHR^a$, -$CON(R^aR^b)$, -$NHCOR^a$, -$NRCOR^a$, -$NHCONH_2$, -$NHCONR^aH$, -$NHCON(R^aR^b)$, -NR^cCONH_2, -NR^cCONR^aH, -$NR^cCON(R^aR^b)$, -C(=NH)-NH_2, -C(=NH)-NHR^a, -C(=NH)-$N(R^aR^b)$, -$C(=NR^c)$-NH_2, -$C(=NR^c)$-NHR^a, -$C(=NR^c)$-$N(R^aR^b)$, -NH-C(=NH)-NH_2, -NH-C(=NH)-NHR^a, -NH-C(=NH)-$N(R^aR^b)$, -NH-$C(=NR^c)$-NH_2, -NH-$C(=NR^c)$-NHR^a, -NH-$C(=NR^c)$-$N(R^aR^b)$, ~~-NR^dH-C(=NH)-NH_2~~-NR^d-C(=NH)-NH_2, -NR^d-C(=NH)-NHR^a, -NR^d-C(=NH)-$N(R^aR^b)$, -NR^d-$C(=NR^c)$-NH_2, -NR^d-$C(=NR^c)$-NHR^a, -NR^d-$C(=NR^c)$-$N(R^aR^b)$, -$NHNH_2$, -$NHNHR^a$, ~~-NHR^aR^b~~, -$NHNR^aR^b$ -SO_2NH_2, -SO_2NHR^a, -$SO_2NR^aR^b$, -CH=CHR^a, -CH=CR^aR^b, -CR^c=CR^aR^b,-CR^c=CHR^a, -CR^c=CR^aR^b, -CCR^a, -SH, -SR^a, -S(O)R^a, -$S(O)_2R^a$, a non-aromatic heterocyclic group, a substituted non-aromatic heterocyclic group, a benzyl group, a substituted benzyl group, an aryl group or substituted aryl group, wherein R^a-R^d are each independently an alkyl group, substituted alkyl group, benzyl, substituted benzyl, aromatic or substituted aromatic group, or, -$N(R^aR^b)$, taken together, form a substituted or unsubstituted non-aromatic heterocyclic group.

13. (Original) The method of Claim 1 wherein the compound is represented by the following structural formula:



;

wherein

Y" is a covalent bond or -CH_2-; and

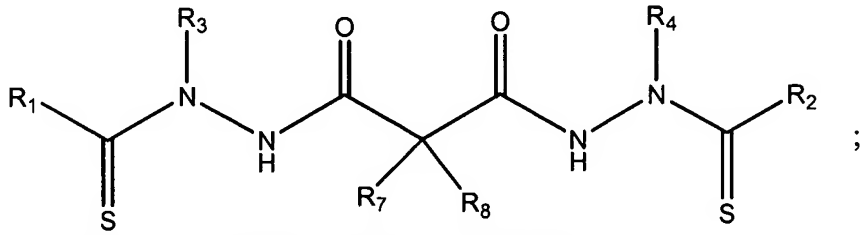
R_1 and R_2 are both a substituted or unsubstituted aliphatic group.

14. (Original) The method of Claim 13 wherein R_1 and R_2 are both C3-C8 cycloalkyl group optionally substituted with at least one alkyl group.

15. (Original) The method of Claim 14 wherein R_3 and R_4 are both a substituted or unsubstituted alkyl group.

16. (Original) The method of Claim 15 wherein R_1 and R_2 are both cyclopropyl or 1-methylcyclopropyl.

17. (Currently amended) A method of treating a subject with a multi-drug resistant cancer, said method comprising administering to the subject an effective amount of a compound represented by the following structural formula:



;

or a pharmaceutically acceptable salt thereof, wherein:

R_1 and R_2 are both phenyl; R_3 and R_4 are both methyl; R_7 and R_8 are both -H;

R_1 and R_2 are both phenyl; R_3 and R_4 are both ethyl; R_7 and R_8 are both -H;

R_1 and R_2 are both 4-cyanophenyl; R_3 and R_4 are both methyl; R_7 is methyl; R_8 is -H;

R_1 and R_2 are both 4-methoxyphenyl; R_3 and R_4 are both methyl; R_7 and R_8 are both -H;

R_1 and R_2 are both phenyl; R_3 and R_4 are both methyl; R_7 is methyl; R_8 is -H;

R_1 and R_2 are both phenyl; R_3 and R_4 are both ethyl; R_7 is methyl; R_8 is -H;

R_1 and R_2 are both 4-cyanophenyl; R_3 and R_4 are both methyl; R_7 and R_8 are both -H;

R_1 and R_2 are both 2,5-dimethoxyphenyl; R_3 and R_4 are both methyl; R_7 and R_8 are both -H;

R_1 and R_2 are both 2,5-dimethoxyphenyl; R_3 and R_4 are both methyl; R_7 is methyl; R_8 is -H;

R_1 and R_2 are both 3-cyanophenyl; R_3 and R_4 are both methyl; R_7 and R_8 are both -H;

R_1 and R_2 are both 3-fluorophenyl; R_3 and R_4 are both methyl; R_7 and R_8 are both -H;

R_1 and R_2 are both 4-chlorophenyl; R_3 and R_4 are both methyl; R_7 is methyl; R_8 is -H;

R_1 and R_2 are both 2-dimethoxyphenyl; R_3 and R_4 are both methyl; R_7 and R_8 are both -H;

R_1 and R_2 are both 3-methoxyphenyl; R_3 and R_4 are both methyl; R_7 and R_8 are both -H;

R_1 and R_2 are both 2,3-dimethoxyphenyl; R_3 and R_4 are both methyl; R_7 and R_8 are both -H;

R_1 and R_2 are both 2,3-dimethoxyphenyl; R_3 and R_4 are both methyl; R_7 is methyl; R_8 is -H;

R_1 and R_2 are both 2,5-difluorophenyl; R_3 and R_4 are both methyl; R_7 and R_8 are both -H;

R_1 and R_2 are both 2,5-difluorophenyl; R_3 and R_4 are both methyl; R_7 is methyl; R_8 is -H;

R_1 and R_2 are both 2,5-dichlorophenyl; R_3 and R_4 are both methyl; R_7 and R_8 are both -H;

R_1 and R_2 are both 2,5-dimethylphenyl; R_3 and R_4 are both methyl; R_7 and R_8 are both -H;

R_1 and R_2 are both 2,5-dimethoxyphenyl; R_3 and R_4 are both methyl; R_7 and R_8 are both -H;

R_1 and R_2 are both phenyl; R_3 and R_4 are both methyl; R_7 and R_8 are both -H;

R_1 and R_2 are both 2,5-dimethoxyphenyl; R_3 and R_4 are both methyl; R_7 is methyl; R_8 is -H;

R_1 and R_2 are both cyclopropyl; R_3 and R_4 are both methyl; R_7 and R_8 are both -H;

R_1 and R_2 are both cyclopropyl; R_3 and R_4 are both ethyl; R_7 and R_8 are both -H;

R_1 and R_2 are both cyclopropyl; R_3 and R_4 are both methyl; R_7 is methyl; R_8 is -H;

~~R_1 and R_2 are both 1-methylcyclopropyl; R_3 and R_4 are both methyl; Y' is bond;~~

R_1 and R_2 are both 1-methylcyclopropyl; R_3 and R_4 are both methyl; R_7 and R_8 are both -H;

R_1 and R_2 are both 1-methylcyclopropyl; R_3 and R_4 are both methyl; R_7 is methyl and R_8 is -H;

R_1 and R_2 are both 1-methylcyclopropyl; R_3 and R_4 are both methyl; R_7 is ethyl and R_8 is -H;

R_1 and R_2 are both 1-methylcyclopropyl; R_3 and R_4 are both methyl; R_7 is *n*-propyl and R_8 is -H;

R_1 and R_2 are both 1-methylcyclopropyl; R_3 and R_4 are both methyl; R_7 and R_8 are both methyl;

R_1 and R_2 are both 1-methylcyclopropyl; R_3 and R_4 are both ethyl; R_7 and R_8 are both -H;

R_1 and R_2 are both 1-methylcyclopropyl; R_3 is methyl, and R_4 is ethyl; R_7 and R_8 are both -H;

R_1 and R_2 are both 2-methylcyclopropyl; R_3 and R_4 are both methyl; R_7 and R_8 are both -H;

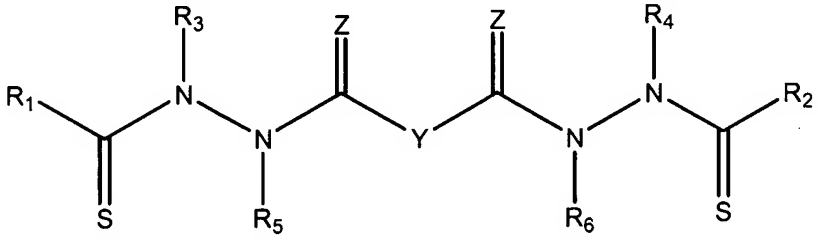
R_1 and R_2 are both 2-phenylcyclopropyl; R_3 and R_4 are both methyl; R_7 and R_8 are both -H;

R_1 and R_2 are both 1-phenylcyclopropyl; R_3 and R_4 are both methyl; R_7 and R_8 are both -H;

R_1 and R_2 are both cyclobutyl; R_3 and R_4 are both methyl; R_7 and R_8 are both -H;

R_1 and R_2 are both cyclopentyl; R_3 and R_4 are both methyl; R_7 and R_8 are both -H;
R_1 and R_2 are both cyclohexyl; R_3 and R_4 are both methyl; R_7 and R_8 are both -H;
R_1 and R_2 are both cyclohexyl; R_3 and R_4 are both phenyl; R_7 and R_8 are both -H;
R_1 and R_2 are both methyl; R_3 and R_4 are both methyl; R_7 and R_8 are both -H;
R_1 and R_2 are both methyl; R_3 and R_4 are both *t*-butyl; R_7 and R_8 are both -H;
R_1 and R_2 are both methyl; R_3 and R_4 are both phenyl; R_7 and R_8 are both -H;
R_1 and R_2 are both *t*-butyl; R_3 and R_4 are both methyl; R_7 and R_8 are both -H;
R_1 and R_2 are ethyl; R_3 and R_4 are both methyl; R_7 and R_8 are both -H; or
R_1 and R_2 are both *n*-propyl; R_3 and R_4 are both methyl; R_7 and R_8 are both -H.

18. (Currently amended) A method of treating a subject other than a mouse with cancer, said method comprising administering to the subject an effective amount of a compound represented by the following structural formula:



;

or a pharmaceutically acceptable salt thereof, wherein:

Y is a covalent bond or a substituted or unsubstituted straight chained hydrocarbyl group, or, Y, taken together with both >C=Z groups to which it is bonded, is a substituted or unsubstituted aromatic group;

R_1-R_4 are independently -H, an unsubstituted aliphatic group, a substituted aliphatic group, an unsubstituted aryl group or a substituted aryl group, or R_1 and R_3 taken together with the carbon and nitrogen atoms to which they are bonded, and/or R_2 and R_4 taken together with the carbon and nitrogen atoms to which they are bonded, form a non-aromatic heterocyclic ring optionally fused to an aromatic ring;

R_5-R_6 are independently -H, an unsubstituted aliphatic group, a substituted aliphatic group, an unsubstituted aryl group or a substituted aryl group; and

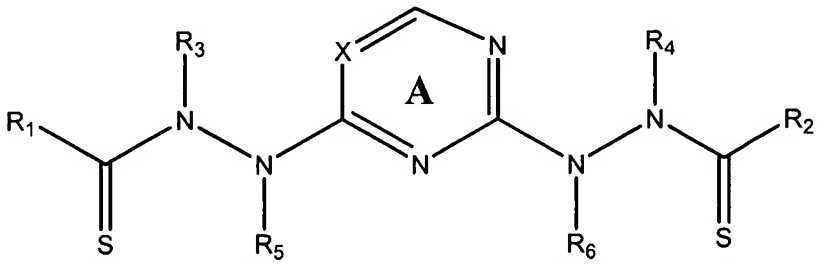
Z is =O or =S;

wherein the subject is optionally co-administered a second anti-cancer agent other than a taxol analog or an analog [[of]] a taxol analog.

19. (Original) The method of Claim 18 wherein R_1 and R_2 are the same and R_3 and R_4 are the same.

20. (Original) The method of Claim 19 wherein Y, taken together with both >C=Z groups to which it is bonded, is a substituted or unsubstituted arylene group.

21. (Original) The method of Claim 20 wherein the compound is represented by the following structural formula:



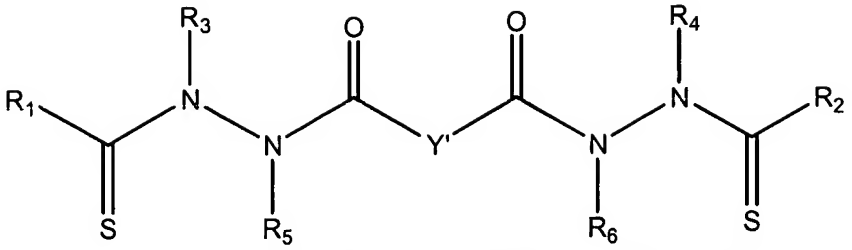
;

wherein Ring **A** is substituted or unsubstituted and X is -CH- or -N-.

22. (Currently amended) The method of Claim 19 wherein Y is a covalent bond[[,]] or a substituted or unsubstituted straight chained hydrocarbyl group ~~or a phenylene group~~.

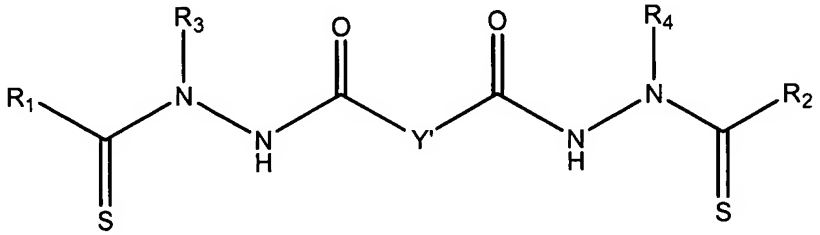
23. (Original) The method of Claim 22 wherein Y is a covalent bond, -(CH_2CH_2)-, *trans*-(CH=CH)-, *cis*-(CH=CH)-, -(CC)- or a 1,4-phenylene group.

24. (Currently amended) The method of Claim 19 wherein the compound is represented by the following structural formula:



wherein Y' is a covalent bond or -C(R_7R_8)- and R_7 and R_8 are each independently -H, an unsubstituted aliphatic or substituted aliphatic group, or R_7 is -H and R_8 is a substituted or unsubstituted aryl group, or, R_7 and R_8, taken together, are a C2-C6 substituted or unsubstituted alkylene group.

25. (Currently amended) The method of Claim 24 wherein the compound is represented by the following structural formula:



Y' is a covalent bond or -C(R_7R_8)-;

R_1 and R_2 are each a substituted or unsubstituted aryl group;

R_3 and R_4 are each a substituted or unsubstituted aliphatic group;

R_7 is -H; and

R_8 is -H, an unsubstituted aliphatic or substituted aliphatic group.

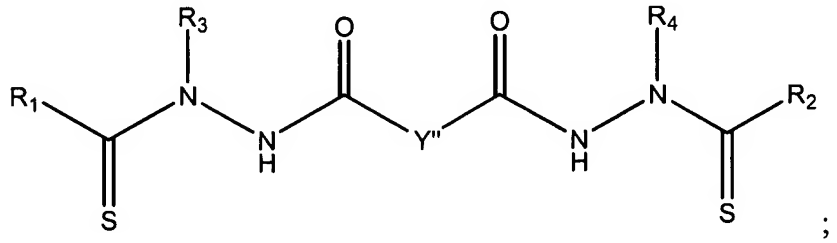
26. (Original) The method of Claim 25 wherein R_1 and R_2 are the same and R_3 and R_4 are the same.

27. (Original) The method of Claim 26 wherein R_3 and R_4 are each an alkyl group and R_8 is -H or methyl.

28. (Original) The method of Claim 27 wherein R_1 and R_2 are each a substituted or unsubstituted phenyl group and R_3 and R_4 are each methyl or ethyl.

29. (Currently amended) The method of Claim 28 wherein the phenyl group represented by R_1 and the phenyl group represented by R_2 are optionally substituted with one or more groups selected from -OH, -Br, -Cl, -I, -F, -OR^a, -O-COR^a, -COR^a, -CN, -NO_2, -COOH, -SO_3H, -NH_2, -NHR^a, -$N(R^aR^b)$, -$COOR^a$, -CHO, -$CONH_2$, -$CONHR^a$, -$CON(R^aR^b)$, -$NHCOR^a$, -$NRCOR^a$, -$NHCONH_2$, -$NHCONR^aH$, -$NHCON(R^aR^b)$, -NR^cCONH_2, -NR^cCONR^aH, -$NR^cCON(R^aR^b)$, -C(=NH)-NH_2, -C(=NH)-NHR^a, -C(=NH)-$N(R^aR^b)$, -C(=NR^c)-NH_2, -C(=NR^c)-NHR^a, -C(=NR^c)-$N(R^aR^b)$, -NH-C(=NH)-NH_2, -NH-C(=NH)-NHR^a, -NH-C(=NH)-$N(R^aR^b)$, -NH-C(=NR^c)-NH_2, -NH-C(=NR^c)-NHR^a, -NH-C(=NR^c)-$N(R^aR^b)$, ~~-NR^dH-C(=NH)-NH_2~~-NR^d-C(=NH)-NH_2, -NR^d-C(=NH)-NHR^a, -NR^d-C(=NH)-$N(R^aR^b)$, -NR^d-C(=NR^c)-NH_2, -NR^d-C(=NR^c)-NHR^a, -NR^d-C(=NR^c)-$N(R^aR^b)$, -$NHNH_2$, -$NHNHR^a$, ~~-NHR^aR^b~~, -$NHNR^aR^b$ -SO_2NH_2, -SO_2NHR^a, -$SO_2NR^aR^b$, -CH=CHR^a, -CH=CR^aR^b, -CR^c=CR^aR^b,-CR^c=CHR^a, -CR^c=CR^aR^b, -CCR^a, -SH, -SR^a, -S(O)R^a, -$S(O)_2R^a$, a non-aromatic heterocyclic group, a substituted non-aromatic heterocyclic group, a benzyl group, a substituted benzyl group, an aryl group or substituted aryl group, wherein R^a-R^d are each independently an alkyl group, substituted alkyl group, benzyl, substituted benzyl, aromatic or substituted aromatic group, or, -$N(R^aR^b)$, taken together, form a substituted or unsubstituted non-aromatic heterocyclic group.

30. (Original) The method of Claim 14 wherein the compound is represented by the following structural formula:



;

wherein

Y" is a covalent bond or $-CH_2-$; and

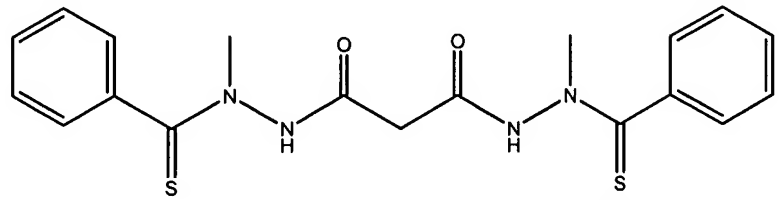
R_1 and R_2 are both a substituted or unsubstituted aliphatic group.

31. (Original) The method of Claim 30 wherein R_1 and R_2 are both C3-C8 cycloalkyl group optionally substituted with at least one alkyl group.

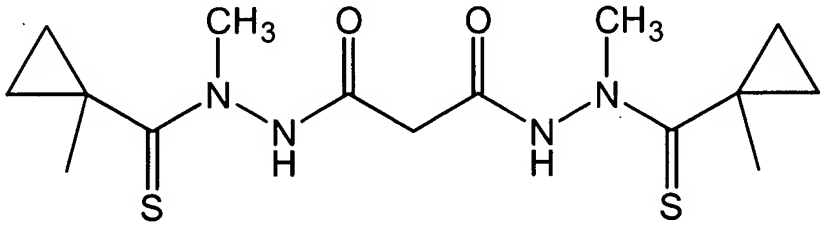
32. (Original) The method of Claim 31 wherein R_3 and R_4 are both a substituted or unsubstituted alkyl group.

33. (Original) The method of Claim 32 wherein R_1 and R_2 are both cyclopropyl or 1-methylcyclopropyl.

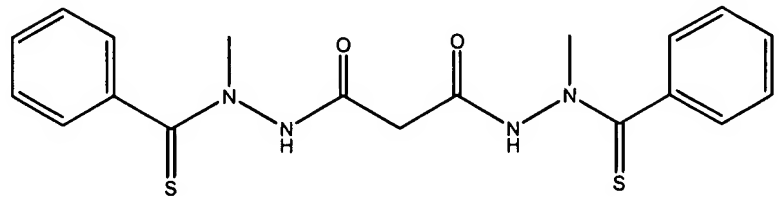
34. (Original) The method of Claim 1, wherein the compound is:



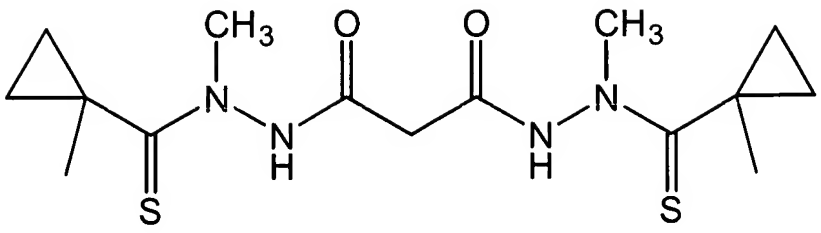
; or



35. (Original) The method of Claim 18, wherein the compound is:



; or


CH3
O
O
CH3
N
N
H
N
H
N
S
S